Fig. 1a

Stage I

Undifferentiated embryonic stem cells cultured on feeder cells

↓

Stage II (7 days)

Generation of nestin positive islet cell progenitors in suspended embryoid bodies

↓

Stage III (7 days)

Culture of embryoid bodies in ITSF medium: elimination of nestin negative cells/progenitor isolation

↓

Stage IV (7 days)

Culture of progenitors with N2, B27, bFGF supplementation: expansion of progenitors

↓

Stage V (14 days)

Replacement of bFGF with nicotinamide and reduction of glucose concentration to 5 mM: generation of surface-bound islet like clusters containing insulin producing cells

↓

Stage VI (14 days)

Suspension culture of dissociated surface-bound clusters:

- generation of purified suspended islet like clusters
- steep increase in insulin secretion capacity
- purification of insulin producing cells
- prolongation of *in-vitro* longevity of insulin producing cells

Fig. 1b

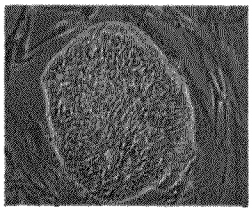


Fig. 1c

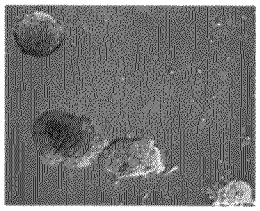


Fig. 1d

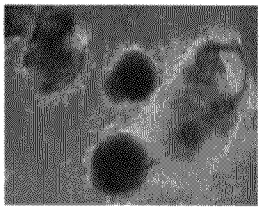


Fig. 1e

Fig. 1f

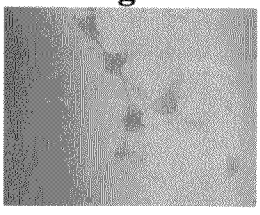


Fig. 1g

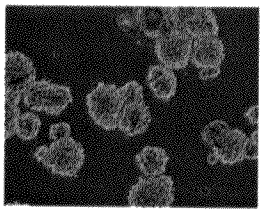


Fig. 2

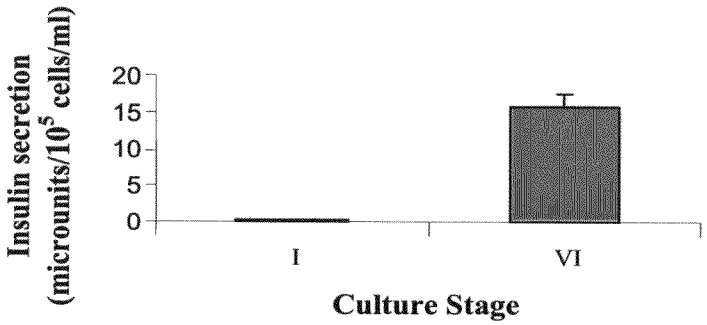
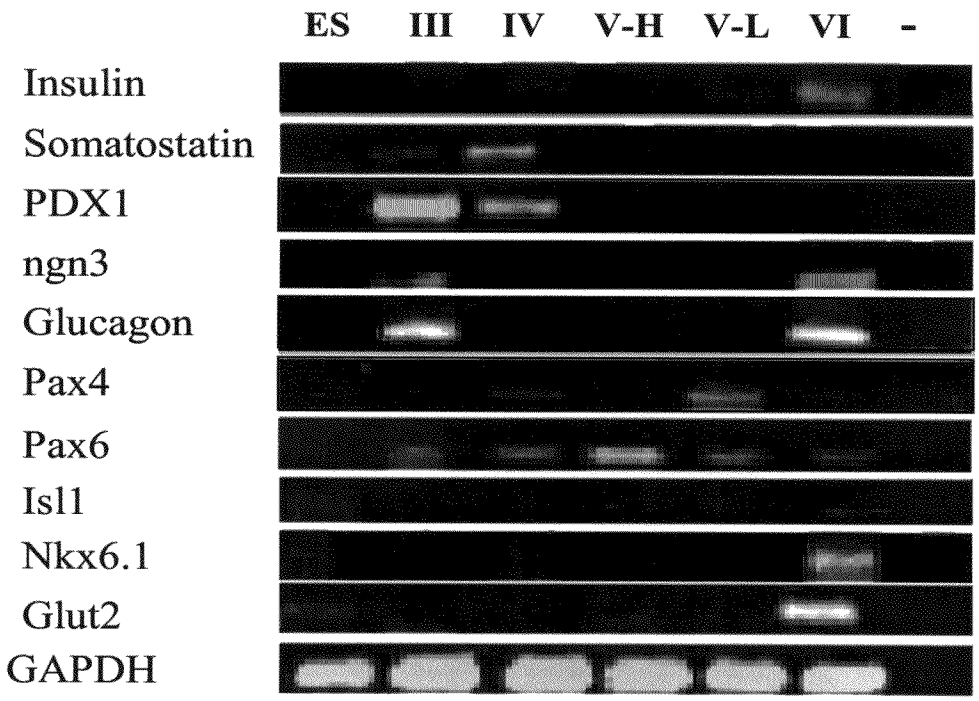


Fig. 3



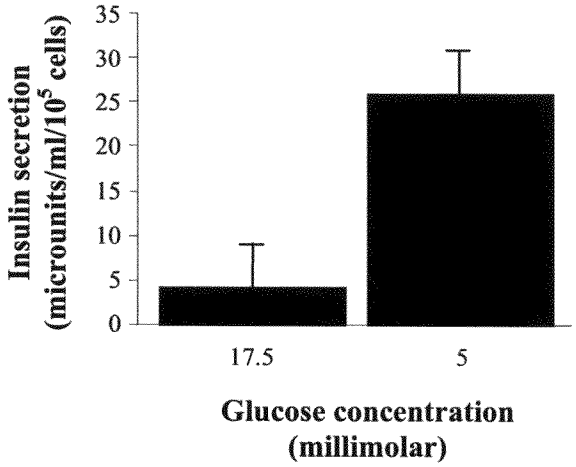


Fig. 4

Fig. 5a

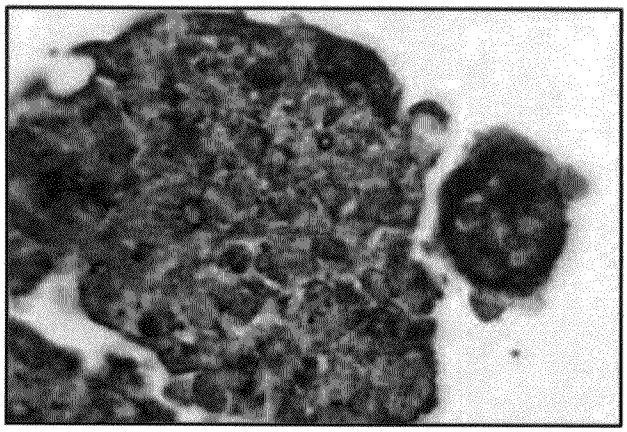


Fig. 5b

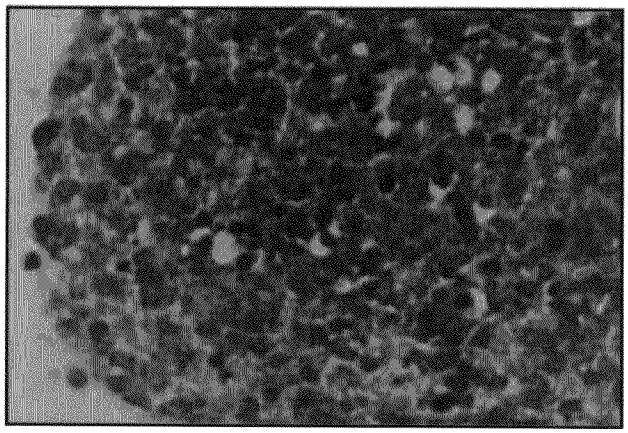
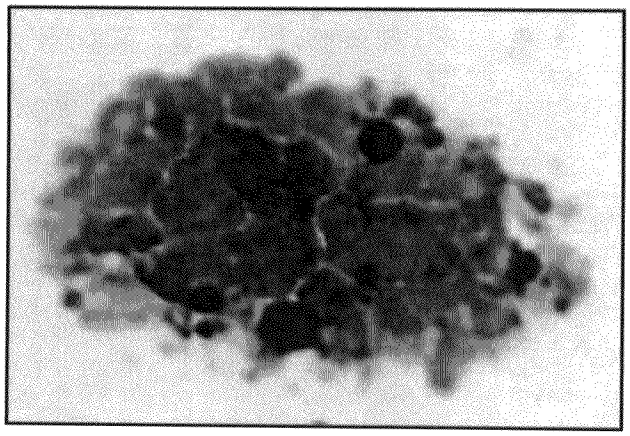


Fig. 5c



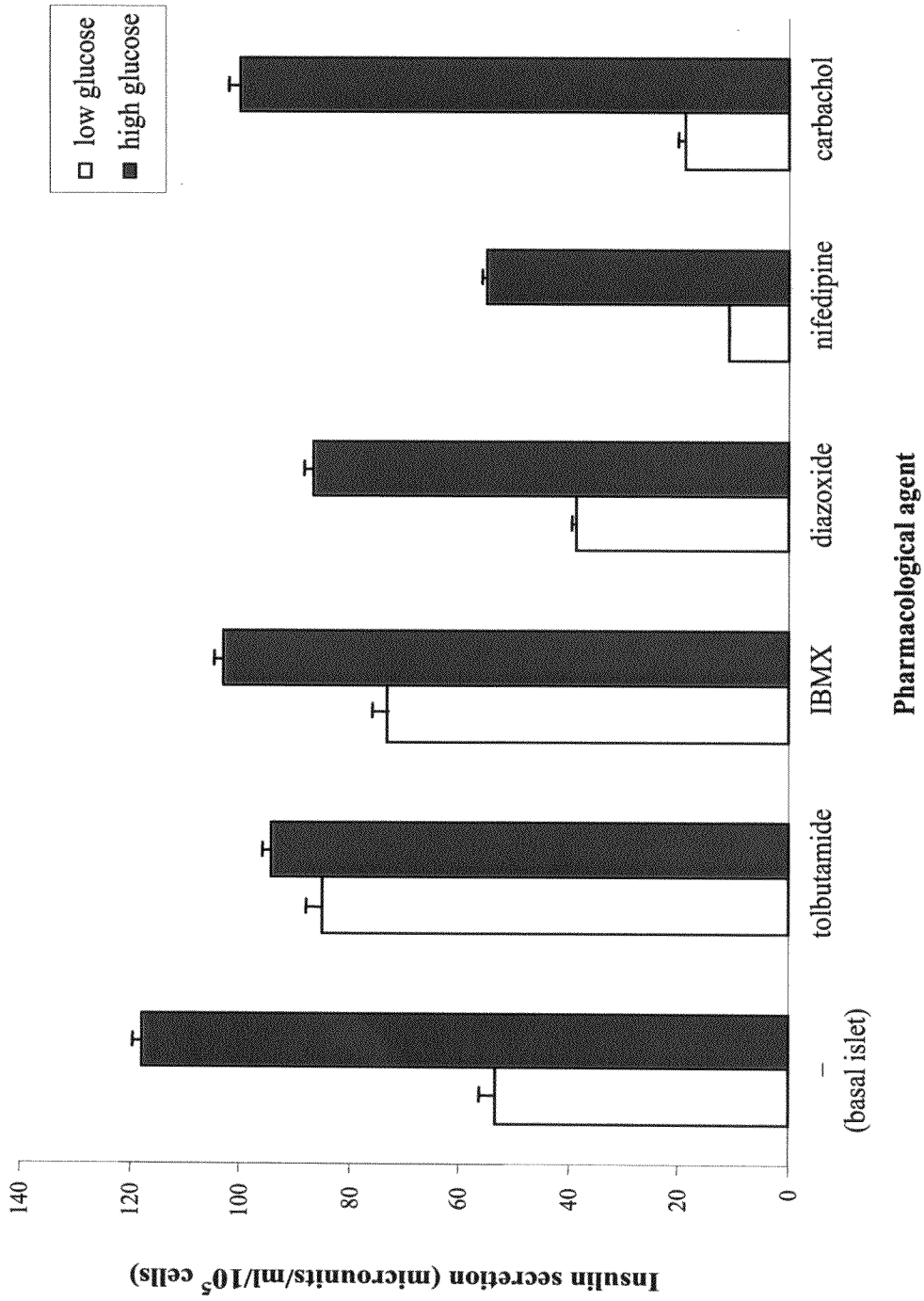


Fig. 6

Fig. 7

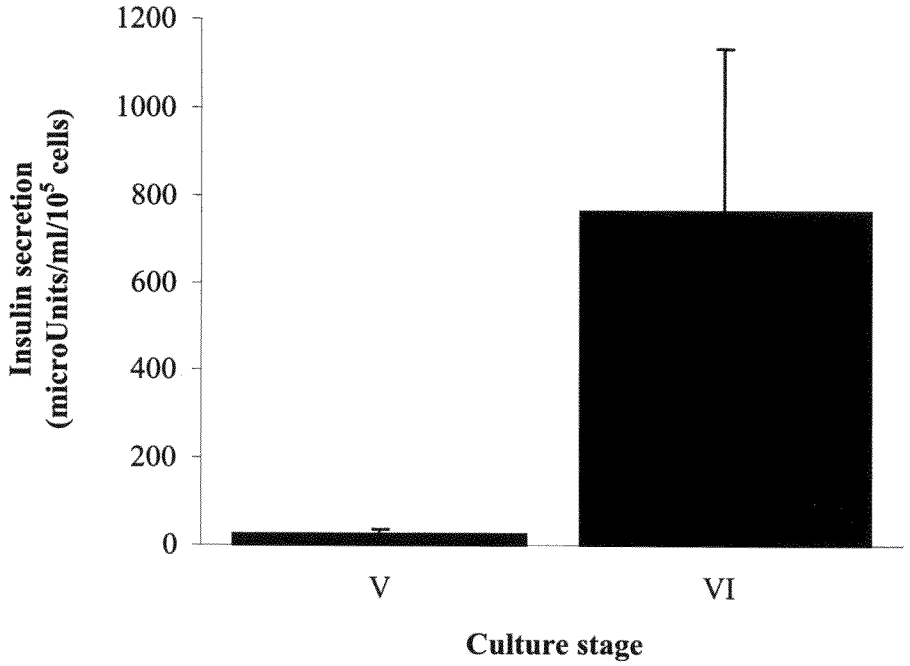


Fig. 8a

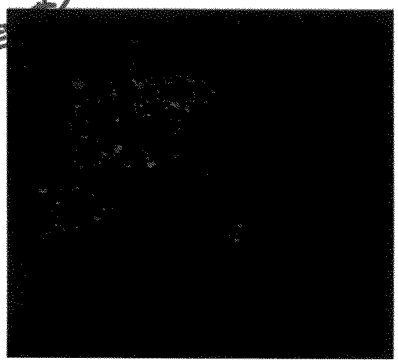


Fig. 8b

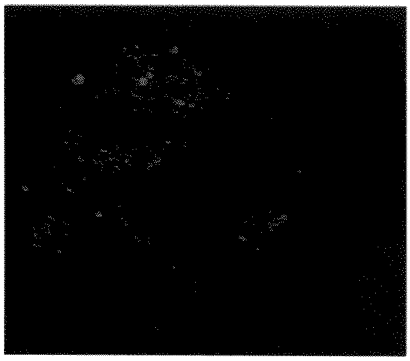


Fig. 8c

Fig. 8d

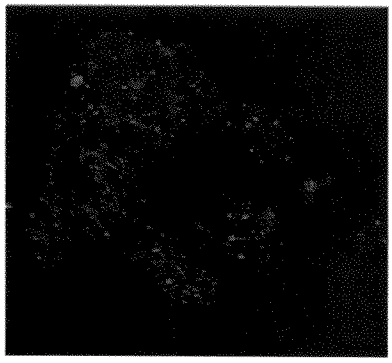


Fig. 9a Fig. 9b Fig. 9c

C-peptide

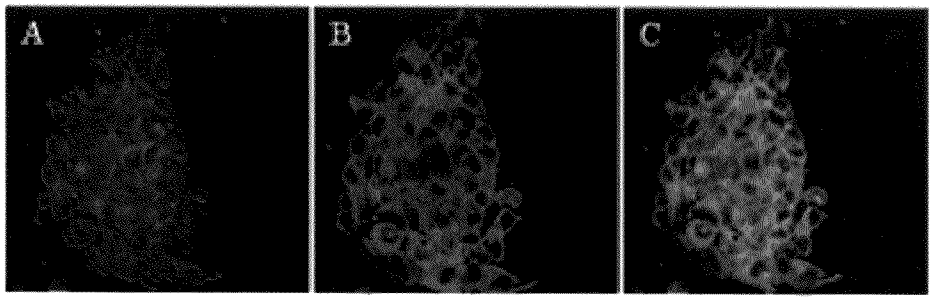


Fig. 9d Fig. 9e Fig. 9f

Somatostatin

Fig. 9g Fig. 9h Fig. 9i

Glucagon

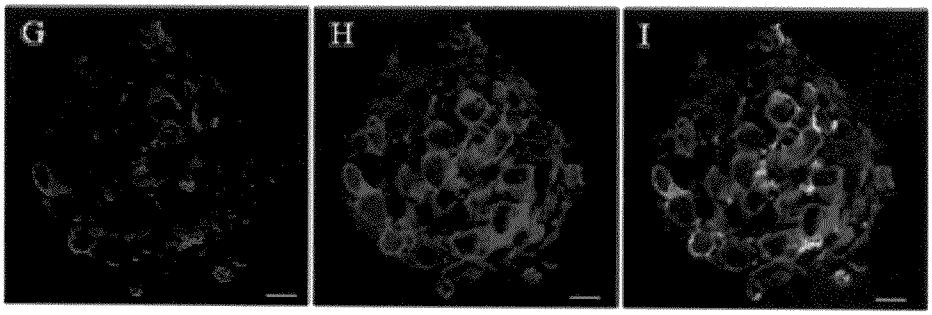


Fig. 10